

READ ME FIRST

Investigations ©2012 for the Common Core State Standards...

A focused, comprehensive, and cohesive program for grades K-5

In updating *Investigations* 2nd edition to encompass the Common Core State Standards and Mathematical Practice, the TERC authors carefully considered the what, where, when, and how to do this to ensure and maintain its cohesive curriculum. Carefully considering and analyzing the Common Core standards to determine what they actually asked for, the authors then determined where the new content to be added made the best connection for student learning. They added Common Core content at appropriate points by building on current content, contexts and representations already in the curriculum to create the comprehensive and cohesive program: *Investigations ©2012 for the Common Core State Standards*.

- New content is addressed in Teaching Notes and Math Notes where the content already existed, but connection to the standards needs to be more explicit.
- New content is addressed in Classroom Routines and Ten-Minute Math when the content in the Standards is more about practice than deepening understanding.
- New content is addressed in new Sessions when the mathematical idea can be extended and/or explained with one or two new Sessions.
- New content is addressed in a new Investigation when mathematical content extends beyond what was in the curriculum.

All of these new Sessions build on existing contexts and representations within the grade level, rather than introducing new contexts and representations used in a higher grade level. In some instances it may appear that a single new Session addresses a new concept. But, that new concept will be further developed and integrated into subsequent routines, games, homework, and practice pages.

Some sessions are recommended by the authors to be skipped to allow for new Common Core material. Before making these decisions, the authors carefully considered how it would impact the integrity of the grade level, of the curriculum. *Investigations ©2012 for the CCSS* program maintains coherence, focus and clarity to support all K-5 students in making sense of mathematics and learning that they can become mathematical thinkers.

The foundation of this Scope and Sequence is the Scope and Sequence found in the *Implementing Investigations* book at each grade level. This Common Core Scope and Sequence includes all Common Core content new to the *Investigations*, 2nd edition curriculum.

Math Focus Points from Sessions in *Investigations and the CCSS* guidebook are color-coded. **Color Key** to *Investigations ©2012 for the Common Core* Scope and Sequence:

BLUE

- indicates new Math Focus Points based on Common Core content in new Sessions
- indicates new Sessions that support Math Focus Points already in the program

GREEN

- indicates new Math Focus Points based on Common Core content in Classroom Routines and Ten-Minute Math
- indicates new Math Focus Points based on Common Core content in the Common Core Adaptations: Teaching Notes, and Math Notes

RED

- indicates Math Focus Points from sessions that the TERC authors recommend to be skipped, based on Common Core State Standards

Number and Operations

Counting and Quantity Developing strategies for accurately counting a set of objects by ones

Unit 1 Math Focus Points

- counting the number of students in the class
- using the calendar to count days
- connecting number names, numerals, and quantities
- establishing one-to-one correspondence between equal groups (e.g., students and cubes)
- developing strategies for accurately counting and keeping track of quantities up to the number of students in the class
- creating an equivalent set
- counting, creating, and representing quantities

Unit 2 Math Focus Points

- developing strategies for accurately counting and keeping track of quantities up to 12
- connecting number words, numerals, and quantities
- developing visual images for quantities up to 6
- counting backward

Unit 3 Math Focus Points

- counting, creating, and representing quantities
- counting 12 objects

Unit 4 Math Focus Points

- counting a set of objects and creating an equivalent set **(1.6A, 1.6B, 1.6C)**
- connecting number words, numerals, and quantities
- keeping track of a growing set of objects
- counting spaces and moving on a game board

- creating a set of a given size
- developing and analyzing visual images for quantities up to 10

Unit 6 Math Focus Points

- developing and analyzing visual images for quantities up to 10
- developing strategies for accurately counting and keeping track of quantities up to 20
- using subsets to count a set of objects
- counting spaces and moving on the game board
- **practicing the rote counting sequence, from 1 to 30 (1.3A)**

Unit 7 Math Focus Points

- counting and keeping track of quantities **(1.7A)**
- matching sets with a 1-to-1 correspondence
- working with 2-to-1 correspondence
- counting by groups of 2
- **counting by groups of 10 (1.7A)**

Counting and Quantity Developing an understanding of the magnitude and position of numbers

Unit 2 Math Focus Points

- comparing two (or more) quantities to determine which is more
- developing language for comparing quantities (more, greater, less, fewer, most, least, fewest, same, and equal to)
- ordering quantities from least to most

Unit 4 Math Focus Points

- developing an understanding of more than and fewer than
- comparing two quantities to determine which is more

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Unit 7 Math Focus Point

- comparing two quantities to determine which is more

Counting and Quantity Developing the idea of equivalence

Unit 2 Math Focus Points

- creating an equivalent set
- considering whether order matters when you count

Unit 6 Math Focus Points

- creating an equivalent set
- counting and comparing quantities to 20 to determine which is more

Whole Number Operations Using manipulatives, drawings, tools, and notation to show strategies and solutions

Unit 1 Math Focus Points

- exploring math manipulatives and their attributes
- using the calendar as a tool for keeping track of time and events
- representing quantities with pictures, numbers, objects, and/or words

Unit 2 Math Focus Points

- representing quantities with pictures, numbers, objects, and/or words
- using numerals to represent quantities
- using a Ten-Frame to develop visual images of quantities up to 10

Unit 4 Math Focus Points

- recording measurements with pictures, numbers, and/or words
- using numbers to represent quantities and to record how many
- using a Ten-Frame to develop visual images of quantities up to 10

Kindergarten Scope and Sequence

- recording an arrangement of a quantity

Unit 6 Math Focus Points

- using numbers, and/or addition notation, to describe arrangements of objects, to record how many, and to represent an addition situation **(1.3A, 5A.1, 5A.2)**
- using numbers, pictures, and/or words to represent a quantity or measurement, or a solution to a problem
- using the number line as a tool for counting **(1.3A)**
- using addition notation to record each composition and decomposition **(5A.3)**
- using numbers and addition notation to record **(5A.4, 5A.5)**

Whole Number Operations Making sense of and developing strategies to solve addition and subtraction problems with small numbers

Unit 4 Math Focus Points

- finding the total after a small amount (1, 2, 3) is added to a set of up to 7
- combining two amounts
- modeling the action of combining and separating situations
- separating one amount from another
- adding or subtracting one to/from numbers up to 10
- adding to or subtracting from one quantity to make another quantity
- decomposing numbers in different ways
- exploring combinations of a number (e.g., 6 is 3 and 3 and also 5 and 1)
- thinking strategically about moves on a game board

Unit 6 Math Focus Points

- decomposing numbers in different ways **(1.3A, 5A.2)**
- finding the total after 1, 2, or 3 is added to, or subtracted from, a set **(5A.1)**
- combining single-digit numbers, with totals to 20

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- modeling the action of combining and separating situations
- separating one amount from another
- developing strategies for solving addition and subtraction story problems
- finding combinations of a five and six
- considering combinations of a number (e.g., 6 is 3 and 3 and also 5 and 1)
- beginning to recognize that some problems have more than one solution
- thinking strategically about moves on a game board
- adding and subtracting within 5 (**5A.1, 5A.5**)
- solving a problem in which the total (10) and one part are known (**5A.2, 5A.5**)
- composing and decomposing the teen numbers into one ten and some number of ones (**5A.3, 5A.4, 5A.5**)

Patterns and Functions

Repeating Patterns Constructing, describing, and extending repeating patterns

Unit 3 Math Focus Points

- copying, constructing, comparing, describing, and recording repeating patterns
- determining what comes next in a repeating pattern
- comparing repeating and non-repeating arrangements
- distinguishing between patterns and nonpatterns
- constructing a variety of patterns using the same elements
- comparing different kinds of patterns

Kindergarten Scope and Sequence

Repeating Patterns Identifying the unit of a repeating pattern

Unit 3 Math Focus Points

- identifying the unit of a repeating pattern
- counting the number of units in a repeating pattern
- extending a repeating pattern by adding on units to the pattern

Data Analysis

Data Analysis Sorting and classifying

Unit 1 Math Focus Points

- identifying attributes (e.g., color, size, and shape) and developing language to describe them
- comparing how objects are the same and different
- finding objects that share one attribute
- using attributes to sort a group of objects

Unit 3 Math Focus Points

- finding objects that share one attribute
- using attributes to sort a group of objects
- comparing how objects are the same and different
- observing and describing
- using information to figure out what is missing

Unit 7 Math Focus Points

- identifying the attributes of an object
- identifying an attribute that is common to several objects
- comparing how objects are the same and different
- using attributes to sort a set of objects
- grouping data into categories based on similar attributes
- sorting a set of objects or data in different ways

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Data Analysis Carrying out a data investigation

Unit 1 Math Focus Points

- collecting and keeping track of survey data
- describing and comparing the number of pieces of data in each category
- interpreting results to a data investigation

Unit 7 Math Focus Points

- choosing a survey question with two possible responses
- collecting and keeping track of survey data
- interpreting results of a data investigation
- using data to solve a problem

Data Analysis Representing data

Unit 7 Math Focus Points

- making a representation of a set of data
- seeing the 1-to-1 correspondence between a set of data and a representation of this data

Geometry

Features of Shape Describing, identifying, comparing, and sorting two- and three-dimensional shapes

Unit 1 Math Focus Points

- developing language to describe shapes, position, and quantity
- developing language to describe relative position (e.g., above, below, next to) **(1.1, 1.6)**

Unit 2 Math Focus Point

- developing language to describe relative position (e.g., next to, in between, beside, in front of, behind) **(1.2)**

Kindergarten Scope and Sequence

Unit 3 Math Focus Point

- developing language to describe relative position and proximity (e.g., above, below, next to) **(1.2)**

Unit 4 Math Focus Point

- using precise language to describe relative positions in tile arrangements **(4.1)**

Unit 5 Math Focus Points

- developing language to describe and compare 2-D and 3-D shapes and their attributes
- relating 2-D and 3-D shapes to real-world objects
- developing language to describe relative position (e.g., above, below, next to) **(1.5)**
- describing the attributes of circles and rectangles
- describing the attributes of triangles and squares
- developing an understanding that a rectangle (or a circle, a triangle, a square) is still a rectangle (or a circle, a triangle, a square) regardless of size, color, or orientation **(1.2, 1.3)**
- exploring relationships among pattern block shapes
- comparing the faces of different 3-D shapes and the faces of a single 3-D shape
- exploring materials
- relating 3-D objects to 2-D pictures of 3-D shapes **(3.1)**
- matching a 3-D block to a 2-D outline of one of the block faces
- exploring Geoblocks and their attributes

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Features of Shape Composing and decomposing two- and three-dimensional shapes

Unit 5 Math Focus Points

- constructing 2-D shapes
- finding combinations of shapes that fill an area
- constructing 3-D shapes
- combining 3-D shapes to make a given 3-D shape

Measurement

Linear Measurement Understanding length

Unit 2 Math Focus Points

- directly comparing two objects to determine which is longer
- sorting objects into two categories, according to length
- developing language to describe and compare lengths (long, longer than, short, shorter than, the same, equal to)

Linear Measurement Understanding length and using linear units

Unit 4 Math Focus Points

- understanding what length is
- identifying the longest dimension of an object
- comparing lengths of different objects
- repeating multiple nonstandard units to quantify length
- developing strategies for measuring the length of an object

Unit 6 Math Focus Point

- repeating multiple nonstandard units to quantify length

Kindergarten Scope and Sequence

Weight Understanding weight

Unit 4 Math Focus Points

- understanding what weight is (**1.6A**)
- comparing weights of different objects (**1.6A, 1.6B, 1.6C**)
- recording measurements with pictures, numbers, and/or words (**1.6A, 1.6B, 1.6C**)
- developing strategies for measuring the weight of an object (**1.6B, 1.6C**)

Classroom Routines

Today's Question

Units 2–7 Math Focus Point

- collecting, counting, representing, describing, and comparing data

Patterns on the Pocket Chart

Units 3–7 Math Focus Points

- determining what comes next in a repeating pattern
- describing repeating patterns

Calendar

Units 1–7 Math Focus Points

- using the calendar as a tool for keeping track of time
- developing strategies for counting accurately

Attendance

Units 1–7 Math Focus Points

- developing strategies for counting accurately
- considering whether order matters when you count
- comparing quantities
- counting forward and backward
- counting on the number line
 - practicing the rote counting sequence, starting with 3, 7, 11 to 30 **(U6 1.4, 2.2, 2.6)**
 - practicing the rote counting sequence, starting with 5, 12, 16 to 50 **(U6 3.4, 4.1, 4.5)**
 - practicing the rote counting sequence, starting with 21, 27, 33, 39 to 60 **(U6 5A.1, 5A.2, 5A.3, 5A.4)**
 - practicing the rote counting sequence, starting with 42 to 70 **(U6 5A.5)**
 - practicing the rote counting sequence, starting with 42 to 70 **(U7 1.3)**
 - practicing the rote counting sequence, starting with 53, 50, 61, 72 to 100 **(U7 1.7A, 2.1, 2.5, 3.3)**
- counting by 10s
 - practicing counting by 10s to 100 **(U7 2.3, 3.1, 3.5)**